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I, JULIE BILLINGSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2003903393 for a patent by JEREMY PETER GORMAN and JOHN VINCENT TILBROOK as filed on 03 July 2003.

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WITNESS my hand this
Seventh day of April 2004

J. Billingsley

JULIE BILLINGSLEY
TEAM LEADER EXAMINATION
SUPPORT AND SALES

APPLICANTS: JEREMY PETER GORMAN
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JOHN VINCENT TILBROOK

NUMBER:

FILED:

AUSTRALIA

THE PATENTS ACT 1990

PROVISIONAL SPECIFICATION FOR THE INVENTION ENTITLED

"TIMING DISPLAY"

The present invention will be described in the following statement:

The present invention relates to a timing display for use in sports or games such as basketball, water polo and other sports having set time limits.

In some sports and games particular time limits apply for performing particular actions. One example of such a time limit occurs in basketball, where a team has a given period of time in which to shoot a ball after gaining possession of the ball. This time limit, which under the present rules of basketball is 24 seconds, is displayed on a device known as a "shot clock".

Known shot clocks are numerical electronic displays, which display the number of seconds remaining until the expiration of the time period. These shot clocks are typically located adjacent to a basketball court.

There are several problems associated with the use of known shot clocks. These include the need for players, coaches and spectators to focus away from the court onto the display device in order to see the remaining time period. A further problem is the propensity for the digital display device to be misread, particularly by players who read the display device using peripheral vision.

The present invention attempts to overcome at least in part some of the aforementioned disadvantages of previous timing displays

In accordance with one aspect of the present invention there is provided a timing display device for use in games or sports, the timing display device having a first end, a second end, and an intermediate location, the timing display device having a first indicating means which is arranged to move between the first end and the

intermediate location, and a second indicating means which is arranged to move between the second end and the intermediate location, the first and second indicating means being arranged to move in unison towards the intermediate location such that the end of a predetermined time period is indicated by the meeting of the first and second indicating means at the intermediate location.

In accordance with a second aspect of the present invention there is provided a timing display device for use in games or sports, the timing display device having a first end, a second end, and at least one intermediate location, the timing display device having a first indicating means which is arranged to move between an intermediate location and the first end, and a second indicating means which is arranged to move between an intermediate location and the second end, the first and second indicating means being arranged to move in unison away from a central intermediate location such that the end of a predetermined time period is indicated by the first and second indicating means reaching the first and second ends respectively.

Advantageously, this provides players, coaches and spectators with an easily viewed and understood indication of remaining time.

Preferably, each indicating means comprises a plurality of lights arranged between a respective end and the intermediate location, wherein the lights are sequentially turned off from an outermost light to a light adjacent the intermediate location, or from a light adjacent the intermediate location to an outermost light.

Preferably, lights of two colours are provided, wherein the timing device can be used to show a first time period using lights of one colour and a second time period using

lights of another colour. The first and second time periods may add together to form an overall time period.

The present invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a basketball backboard incorporating a timing display device in accordance with the present invention; and

Figure 2 is an enlarged view of a portion of the timing display device of Figure 1.

Referring to the Figures, there is shown a basketball backboard 10. A timing display device 20 is mounted above the basketball backboard 10. The timing display device 20 is substantially elongate, and extends across a top edge of the basketball backboard 10. The timing display device 20 has a first end 22 and a second end 24. An intermediate location 26 is located approximately centrally of the timing display device 20.

A plurality of indicators 28 are arranged along the timing display device 20 between the first end 22 and the second end 24. Each indicator 28 has at least an "on" state and an "off" state. In use, a plurality of indicators 28 centred about the intermediate location are in the on state, with indicators adjacent the first end 22 and the second end 24 in the off state. A first indicating means 30 is defined at the intersection between "off" and "on" indicators 28 between the first end 22 and the intermediate location 26, and a second indicating means 32 is defined at the intersection between "on" and "off" indicators 28 between the second end 24 and the intermediate location

26. As outermost "on" indicators 28 change state to "off", the first and second indicating means 30, 32 thus move towards the intermediate location 26.

In a simplified embodiment of the invention, the indicators 28 each comprise a first light emitting diode 34 and a second light emitting diode 36 as shown in Figure 2. Each of the first light emitting diodes 34 is of a first colour such as blue. Each of the second light emitting diodes 36 is of a second colour such as red.

In a preferred embodiment of the invention, as shown in Figure 3, each indicator 28 comprises a plurality of first light emitting diodes 34 and second light emitting diodes 36.

It will be appreciated that other embodiments of the invention may have more than two diodes of different colours in each indicator.

In use, the beginning of a first time period is represented by each of the first light emitting diodes 34 being turned on. This will be perceived by a viewer as a solid blue line. As the time period progresses, the first light emitting diodes 34 will be sequentially turned off, beginning with the outermost indicators 28 and moving progressively towards the intermediate location 26. The first and second indicating means 30, 32 will thus be comprised of a series of lights which progressively turn off from the respective first and second ends 22, 24 towards the intermediate location 26. This will be perceived by a viewer as a progressive shortening of the solid blue line. The end of the first time period will be indicated by the meeting of the first and second indicating means 30, 32, being the time when the innermost first light emitting diodes 34 are turned off.

A second time period can be represented in the same way by the operation of the second light emitting diodes 36.

An overall time period such as a 24 second shot clock period may be divided into first and second time periods, for instance a 14 second first time period and a 10 second second time period. In this situation a viewer would perceive a blue line which decreases in length from both ends, with its centre remaining in a constant position, the blue line diminishing to nothing over a 14 second period and being replaced immediately by a red line which diminishes in a similar fashion over a 10 second period.

In an alternate embodiment of the invention the first and second indicating means 30, 32 move from the intermediate location 26 outwards. In this embodiment the viewer perceives lines which increase in length from the centre. In a similar embodiment (not shown), each of the first and second indicating means move from a respective intermediate location outwards, the respective intermediate locations being substantially equally displaced from a central intermediate location 26.

It will be appreciated that other indicators 28 may be used such as light bulbs or sliding members. It will also be appreciated that indicators 28 may be arranged such that alternate indicators 28 each contain only one colour light.

It will also be appreciated that the timing display device 12 may be mounted behind the backboard 10 if the backboard 10 is transparent, or may be located at other suitable locations about the court.

Where the indicators 28 are lights or light emitting diodes, it will be appreciated that the lights which are on may be arranged to flash when the time period being displayed

is paused. Similarly the lights may be arranged to flash in predetermined patterns at other times in the game.

Where light emitting diodes are employed, it is considered preferable to arrange the diodes in a non-multiplexing manner. This prevents flickering problems when the display is viewed via television.

Modifications and variations as would be apparent to a skilled addressee are deemed to be within the scope of the present invention. For instance, the timing display device may be adapted for use in other sports or games.

DATED THIS 3RD DAY OF JULY 2003.

JEREMY PETER GORMAN & JOHN VINCENT TILBROOK
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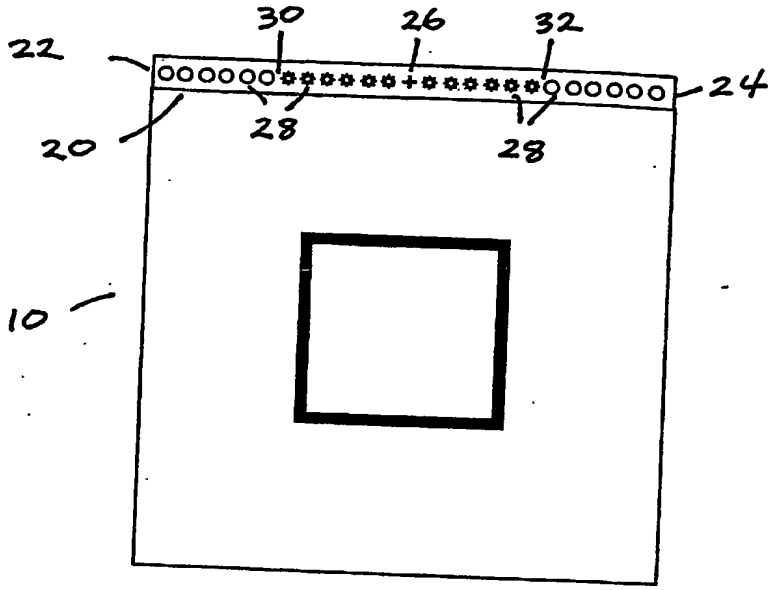

Fig 1

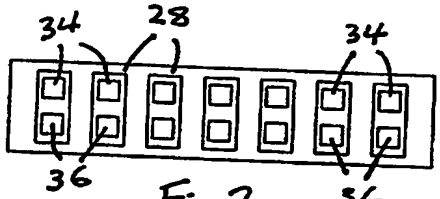

Fig 2

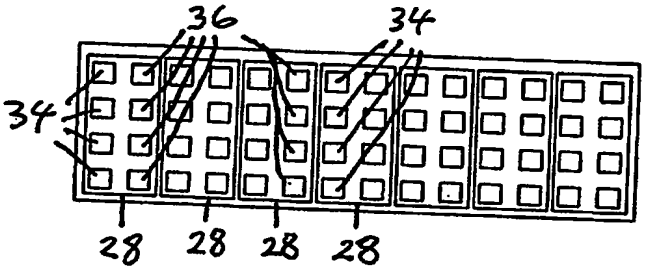

Fig 3